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CLINICAL STUDIES OF DRUG ADDICTION

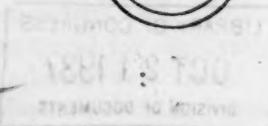
IV. Suggestibility in Narcotic Addicts

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United States Public Health Service

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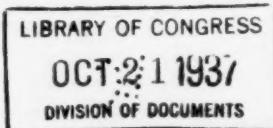
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CLINICAL STUDIES OF DRUG ADDICTION¹

IV. SUGGESTIBILITY IN NARCOTIC ADDICTS

By VICTOR H. VOGEL, Passed Assistant Surgeon, United States Public Health Service

Several writers (1, 2, 3, 4) have noted increased suggestibility in narcotic addicts, but no experimental study has been made confirming their observations.

Many addicts attribute their addiction to association with other addicts, "bad company", or "wrong environment." Although in most of these cases addiction is thought to follow thrill-seeking curiosity on the part of abnormal personalities, it was felt that the possible role of hypersuggestibility in such addiction was of sufficient interest to warrant further study. Furthermore, if addicts as a class are hypersuggestible, more stress should be laid on suggestion and hypnotism as psychotherapeutic measures.

The present investigation was undertaken in an effort to determine whether addicts are more suggestible than nonaddicts and, if they are hypersuggestible, whether they are naturally so or whether this condition is caused by the drugs used.

MATERIAL

The group tested consisted of 200 adult white males addicted to the use of opium, morphine, or heroin, drawn from approximately 1,000 addicts under treatment at the United States Public Health Service Hospital, Lexington, Ky. The vast majority of these men were being confined for violations of the Harrison Narcotic Act. Many had been previously confined for such violations. A few were addicts under voluntary treatment. No distinction is made between these groups, since volunteer patients had all necessarily been guilty of violations of the law in connection with their addiction, and many of them had previously served sentences for such violations.

Three groups of addicts were tested. The first group consisted of 40 men who were dependent on, and under the influence of, an opiate

¹ This is one of a series of clinical studies on drug addiction from the U. S. Public Health Service Hospital, Lexington, Ky. Previously published have been:

I. Himmelsbach, C. K.: The absence of addiction liability in "Perparin." Pub. Health Rep., Supplement No. 122 (1937).

II. Himmelsbach, C. K.: "Rossum" treatment of drug addiction. Pub. Health Rep., Supplement No. 125 (1937).

III. Kolb, Lawrence, and Himmelsbach, C. K.: A critical review of the withdrawal treatments with a method of evaluating the abstinence syndrome. (In press.)

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at the time of the test. All had been addicted continuously for at least a year prior to the test. The average time since the onset of addiction was 11 years, and the maximum duration of addiction was 40 years. The average time between the last dose of narcotic and the test was 6 hours; the maximum time, 14 hours. No individual was tested who was showing signs of withdrawal. The average age of this group was 40.8 years.

The second group included 60 men who had been withdrawn from an active habit of at least a year's duration not more than 60 days prior to the test. The average interval was 35.4 days. The minimum interval was 6 days. No case was tested until after the discomfort of withdrawal had passed. The average duration of addiction was 10.37 years; maximum, 30 years. The average age was 39.5 years.

The third group consisted of the 100 men who had been in the institution the longest, with an average interval since withdrawal of 18.2 months; minimum, 12 months; maximum, 41 months. The average duration of addiction was 14.8 years. The average age was 41.3 years. No men tested in the first group were retested in the second or third groups; no men tested in group two were later retested in group three.

Most of the addicts used in this study had at one time or another used more than one of the addicting narcotic drugs. Some had used cocaine occasionally, many had used alcohol, marihuana, and various barbiturates periodically to excess, usually only when unable to obtain the opiate to which they were addicted. The duration of addiction mentioned refers to the time since the onset of addiction, which had been interrupted by periods of more or less temporary abstinence in most cases.

As controls, 100 guards, attendants, and other adult white male employees were tested. The scores of this group have already been reported in a study on the suggestibility of delinquents (5). Their average age was 35.68 years.

Attention is called to the fact that the individuals tested did not volunteer for the procedure but were tested in line of duty. Under these conditions it was necessary to reject only a few for active noncooperation.

TESTING PROCEDURE

A modification of the Hull postural sway test, which has been previously described in detail (5), was used. Essentially this consists of recording the amount of backward and forward sway resulting from verbal suggestion delivered by a personally recorded phonograph record, the subject standing erect with his eyes closed. In each case, before the suggestion was started, the normal spontaneous postural



FIGURE 1.—Arrangement of testing apparatus. Backward and forward sway is registered by indicators sliding on steel wires in front of the scale at the left.

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sway was determined by a 1-minute preliminary period. Suggestion was continued for two minutes, as follows:

Now you'll begin to feel yourself falling slowly over forward. Slowly at first, forward, forward, forward, leaning frontward, swaying forward a little, swaying, swaying forward, forward; a little more forward, forward, forward; you'll feel your weight shifting from your heels to your toes as you start to sway and fall over forward, more, more * * *.

Scoring.—Forward or backward sway was considered significant only if it exceeded the excursion of the spontaneous sway during the first minute of the test without suggestion. The distance by which maximum forward or backward movement exceeded the spontaneous sway was scored directly in centimeters, fractions being counted as wholes. Cases in which neither the backward nor the forward sway exceeded the normal postural sway were scored as zero responses. The arrangement of the testing apparatus is shown in figure 1. Sev-

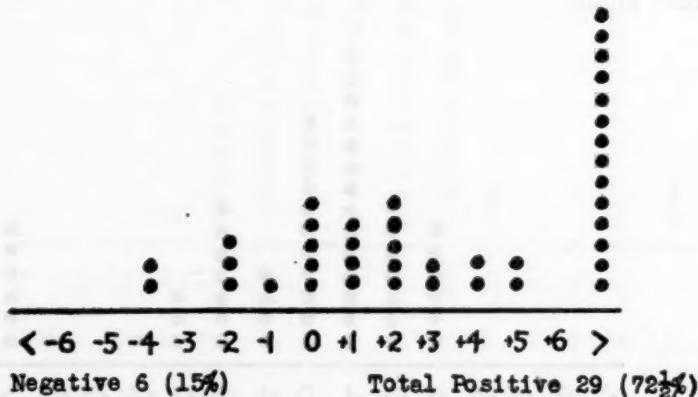


FIGURE 2.—Group 1 addicts (addicted when tested). Distribution of 40 scores.

eral cases exceeding the normal postural sway in both forward and backward directions were classed according to the greater reaction. Although a number of cases were tested a second time after an interval of about 5 minutes, only the first tests are considered here, since a high correlation was shown between the first and second tests. This correlation between repeated tests has been previously reported (5, 6).

RESULTS AND COMMENTS

Of the 40 addicts tested while addicted, 6 (15 percent) showed negative responses, 5 (12½ percent) showed zero responses, and 29 (72½ percent) showed positive responses. Of 14 positive responses greater than 6 cm, 10 lost their balance completely falling forward. Distribution of these scores is shown in the dot diagram in figure 2.

Compared with the controls, whose scores are shown in figure 5, these addicts exhibit a significant preponderance of positive responses. Whereas the control group shows 48 percent negative responses and 32 percent positive responses, this group of addicts shows only 15 percent negative responses and 72½ percent positive responses. Whereas 10 (25 percent) of the entire group of addicts fell, only one of the 100 controls fell.

Of the 60 addicts withdrawn 6 to 60 days prior to testing, 27 (45 percent) showed negative responses, 11 (18 percent) showed zero responses, and 22 (37 percent) showed positive responses. Of the 6 individuals showing more than 6 cm significant sway, 5 fell forward. The distribution of the scores in this group is shown in the diagram in figure 3. Compared with the normal group (figure 5) there is no significant difference between the percentage of negative and positive responses, although there are more extreme positive responses in the addict group.

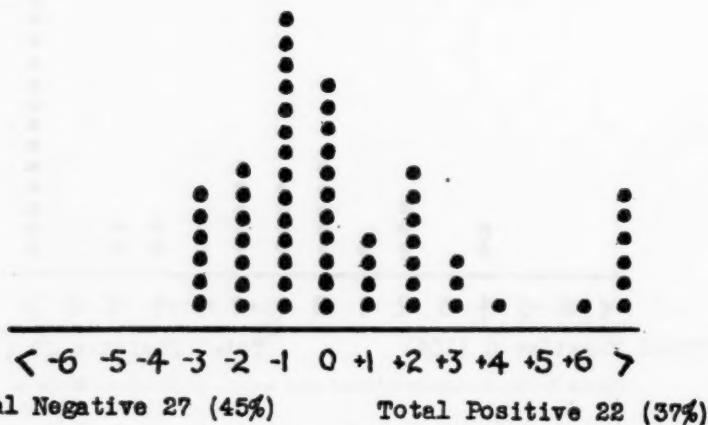


FIGURE 3.—Group 2 addicts (withdrawn 6 to 60 days). Distribution of 60 scores.

Of the 100 addicts tested on an average of 18 months after withdrawal, 35 showed negative responses, 23 zero responses, and 42 positive responses. The scores are distributed as shown in figure 4. As a whole, this group shows a slight majority of positive responses, thus differing from the controls. Three of the addicts reacting positively fell, compared with only one fall in the control group. There is probably no significant difference between this group and the controls.

This work indicates that while addicted to narcotic drugs (opium, morphine, and heroin), adult white males are hypersuggestible, the most frequent (25 percent) reaction to the test being a complete forward fall. This hypersuggestibility probably subsides during withdrawal. At any rate it has largely disappeared by the end of 30 days, although there appears to be a tendency for some of the maximum positive responses to persist. Data concerning these three groups of

addicts and the control group are presented in table 1 for convenient comparison.

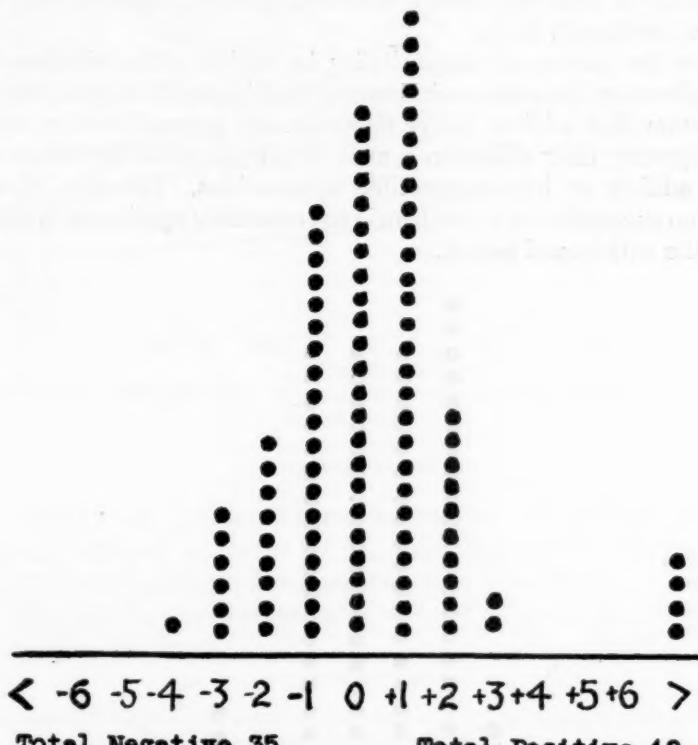


FIGURE 4.—Group 3 addicts (withdrawn average of 18 months). Distribution of 100 scores.

TABLE 1.—*Spontaneous sway and significant sway induced by suggestion in addicts tested and in controls*

Group tested	Aver-age age	Aver-age duration of addiction	Average time since withdrawal	Aver-age spontaneous sway	Significant sway from suggestion				
					Percent of neg-ative re-sponses	Maxi-mum nega-tive re-sponse	Percent of zero re-sponses	Percent of pos-itive re-sponses	Percent of pos-itive falls
40 group 1 addicts.....	Years 40.85	Years 11	Active habits.....	cm 3.56	15	cm 4	12½	72½	25
60 group 2 addicts.....	39.50	10.37	35.4 days.....	2.92	45	3	18	37	8
100 group 3 addicts.....	41.36	14.2	18.2 months....	2.85	35	4	23	42	3
100 controls.....	35.68	0	0.....	3.25	48	4	20	32	1

As a corollary to this study, 23 of the men tested while addicted were retested after an interval of approximately 30 days; 9 were retested twice, approximately 30 days and 60 days after the initial test. The scores are shown graphically in figure 6. The same tendency toward a rapid loss of suggestibility during, or immediately after, the

withdrawal is indicated, although to somewhat lesser degree than in the other groups tested. This may be explained by the fact that there is normally a tendency toward increased positive responses with subsequent testing (7, 8, 9).

Since the picture of suggestibility in addicts after withdrawal is approximately the same as in normal individuals, it is probably safe to assume that addicts before addiction are normal in this respect. Consequently their addiction cannot be attributed to the influence of other addicts on hypersuggestible personalities. Likewise, therapy based on suggestion or hypnotism is not especially applicable to addicts after the withdrawal period.

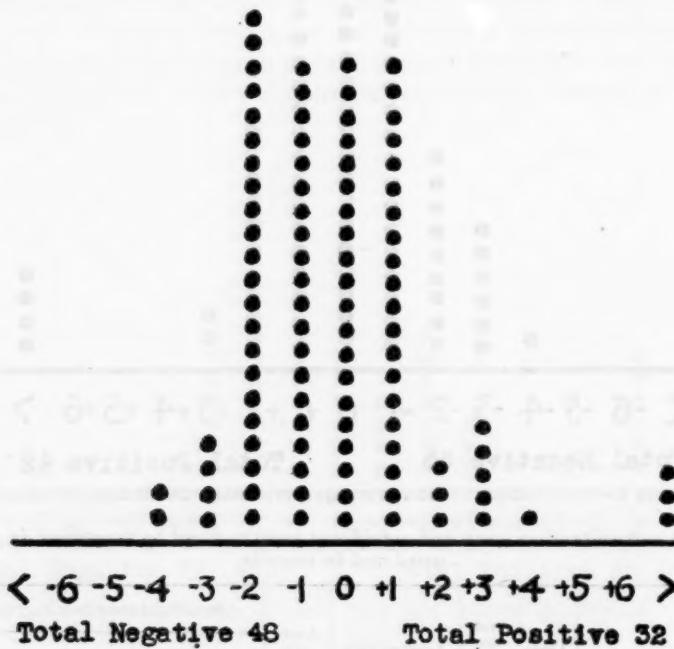


FIGURE 5.—Control group. Distribution of 100 scores.

The explanation of increased suggestibility due to narcotic addiction must await better understanding of the physiology of narcotic addiction and, perhaps, the nature of suggestibility. This increase of suggestibility may arise as a positive effect of the drug, or an inhibitory effect on a natural tendency toward negative suggestibility (5). The present work does not establish whether or not increased suggestibility may be produced by single or irregular doses of drugs as well as habituation. Baernstein (10) reported that single doses of scopolamine hydrobromide increased suggestibility in persons who normally show positive responses, but not in those who normally give negative or zero responses.

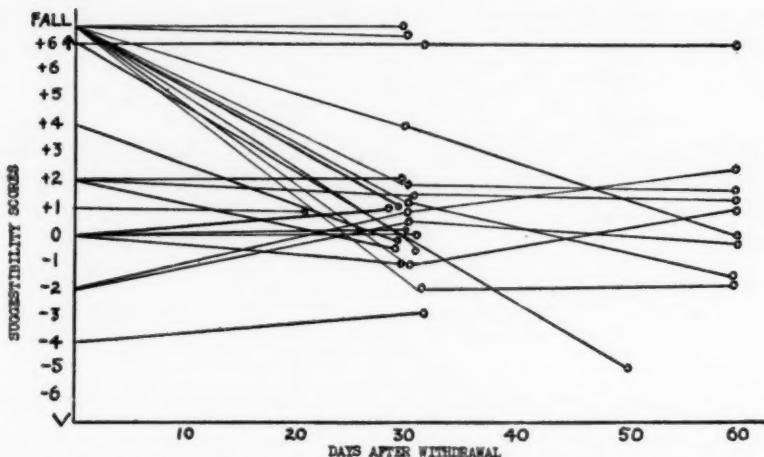


FIGURE 6.—Scores of 23 addicts tested before and after withdrawal, showing tendency to rapid loss of hypersuggestibility.

CONCLUSIONS

1. Adult white males addicted to the use of narcotics (opium, morphine, heroin), as tested by a modification of the postural sway test, are significantly more suggestible than nonaddicts.
2. This hypersuggestibility fades with, or immediately after, withdrawal from the drugs.

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